

REMARKS

Claims 13, 15-19 and 21-26 remain the present application and stand rejected.

Reconsideration of the rejection is respectfully requested in light of the following reasons.

Claim Rejections -- 35 U.S.C. § 102

Claims 13, 16, 18, 22, 23, 24, and 25 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,522,005 to Allman et al. ("Allman").

Claim 13 is patentable over Allman at least for reciting: "a low-k dielectric substantially filling a space extending between a sidewall of a metal line and a sidewall of another metal line in the last metal level." In Allman, the space between sidewalls of metals 28 is filled by both passivation oxide 30 and SOG 34 (Allman, FIG. 2). However, passivation oxide 30 is not a low-k dielectric. SOG 34 is a low-k dielectric but is filling only groove 32 of oxide 30. That is, SOG 34 does not substantially fill the space between sidewalls of metals 28 because that space is also filled with SOG 34, which has to occupy a good amount of that space to form groove 32. Therefore, it is respectfully submitted that claim 13 is patentable over Allman.

Claim 16 depends on claim 13. Therefore, claim 16 is patentable over Allman at least for the same reason that claim 13 is patentable, as well as because of the combination of features set forth in claim 16 and in claim 13.

Like claim 13, claim 18 is patentable over Allman at least for reciting: "a low-k dielectric substantially filling a space between a sidewall of a metal line and a sidewall of an adjacent metal line in the last metal level."

Claim 22 depends on claim 18. Therefore, claim 22 is patentable over Allman at least for the same reason that claim 18 is patentable, as well as because of the combination of features set forth in claim 22 and in claim 18.

Like claim 13, claim 23 is patentable over Allman at least for reciting: "the low-k dielectric substantially filling a space extending between a sidewall of a metal line and a sidewall of an adjacent metal line in the plurality of metal lines."

Claims 24 and 25 depend on claim 23. Therefore, claims 24 and 25 are patentable over Allman at least for the same reason that claim 23 is patentable, as well as because of the combination of features set forth in these claims and in claim 23.

Claims 13, 15-19, and 21-26 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,143,638 to Bohr ("Bohr").

Claim 13 is patentable over Bohr at least for reciting: "the low-k dielectric being over the metal line and the another metal line" and "a layer of dielectric over the low-k dielectric." The integrated circuit structure of Bohr necessarily requires hard mask 204 over conductive layer 202 for moisture resistance. That is, in Bohr, dielectric layer 212 cannot be over conductive layer 202 except during fabrication (i.e., before dielectric layer 212 is planarized and then covered with sealing dielectric 216) (Bohr, 3:29 to 4:67). Therefore, claim 13 is patentable over Bohr.

Claims 15-17 depend on claim 13. Therefore, claims 15-17 are patentable over Bohr at least for the same reasons that claim 13 is patentable, as well as because of the combination of features set forth in these claims and in claim 13.

Like claim 13, claim 18 is patentable over Bohr at least for reciting: "the low-k dielectric being over the metal line and the adjacent metal line" and "means for covering the low-k dielectric."

Claims 19, 21, and 22 depend on claim 18. Therefore, claims 19, 21, and 22 are patentable over Bohr at least for the same reasons that claim 18 is patentable, as well as because of the combination of features set forth in these claims and in claim 18.

Like claim 13, claim 23 is patentable over Bohr at least for reciting: "the low-k dielectric being over the plurality of metal lines" and "a dielectric layer over the low-k dielectric."

Claims 24-26 depend on claim 23. Therefore, claims 24-26 are patentable over Bohr at least for the same reasons that claim 23 is patentable, as well as because of the combination of features set forth in these claims and in claim 23.

Response To Office Action

July 26, 2004

Conclusion

For at least the above reasons, it is respectfully submitted that claims 13, 15-19, and 21-26 are in condition for allowance. The Examiner is invited to telephone the undersigned at (408)436-2112 for any questions.

If for any reason an insufficient fee has been paid, the Commissioner is hereby authorized to charge the insufficiency to Deposit Account No. 50-2427.

Respectfully submitted,
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Dated: July 26, 2004

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